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PTO/SB/08a (08-03)

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SEP 23 2004

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Application Number	10/811,230
Filing Date	March 26, 2004
First Named Inventor	Ganguli, et al.
Group Art Unit	1762
Examiner Name	Unknown
Attorney Docket Number	AMAT/5975.P2/CPI/L/B/PJS

Sheet

1

of

2

Submission Date

September 20, 2004

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
KMS	A1	US-6713373	03/30/2004	Ormstead	
	A2	US-6617634	09/09/2003	Marsh, et al.	
	A3	US-6610568	08/26/2003	Marsh, et al.	
	A4	US-6605735	08/12/2003	Kawano, et al.	
	A5	US-6596602	07/22/2003	Iizuka, et al.	
	A6	US-6580111	06/17/2003	Kim, et al.	
	A7	US-6527855	03/04/2003	De La Rosa, et al.	
	A8	US-6482740	11/19/2002	Soininen, et al.	
	A9	US-6479100	11/12/2002	Jin, et al.	
	A10	US-6440495	08/27/2002	Wade, et al.	
	A11	US-6423619	07/23/2002	Grant, et al.	
	A12	US-6462367	10/08/2002	Marsh, et al.	
	A13	US-6365502	04/02/2002	Paranjpe, et al.	
	A14	US-6063705	05/16/2000	Vaarstra	
	A15	US-5962716	10/05/1999	Uhlenbrock, et al.	
	A16	US-5372849	12/13/1994	McCormick, et al.	
	A17	US-20030165615	09/04/2003	Aaltonen, et al.	
	A18	US-20030096468	05/22/2003	Aaltonen, et al.	
	A19	US-20020173054	11/21/2002	Kim	
	A20	US-20020125516	09/12/2002	Marsh, et al.	
	A21	US-20020121697	09/05/2002	Marsh	
	A22	US-20020102810	08/01/2002	Iizuka, et al.	
	A23	US-20020081381	06/27/2002	Marsh, et al.	
	A24	US-20020076881	06/20/2002	Marsh, et al.	
	A25	US-20020074577	06/20/2002	Marsh, et al.	
	A26	US-20020028556	03/07/2002	Marsh, et al.	
↓	A27	US-20020025627	02/28/2002	Marsh, et al.	
	A28	US-20020004293	01/10/2002	Soininen, et al.	

Examiner /Kelly Stouffer/

Date Considered 09/21/2006

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2

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
KMS	A29	US-20020000587	01/03/2002	Kim, et al.	
KMS	A30	US-20010054730	12/27/2001	Kim, et al.	
KMS	A31	US-20010006838	07/05/2001	Won, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
KMS	B1	WO 01/88972	11/22/2001			
KMS	B2	JP 2001-237400	08/31/2001			
KMS	B3	JP 2001-111000	04/20/2001			

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
KMS	C1	Aaltonen, et al., "Atomic Layer Deposition of Ruthenium from RuCp ₂ and Oxygen: Film Growth and Reaction Mechanism Studies," Electrochemical Society Proceedings Volume 2003-08 pp. 946-953.	
	C2	Aaltonen, et al., "Atomic Layer Deposition of Ruthenium Thin Films from Ru(thd) ₃ and Oxygen," Chem. Vap. Deposition (2004), 10, No. 4 pp. 215-219.	
	C3	Aaltonen, et al., "Ruthenium Thin Films Grown by Atomic Layer Deposition," Chem. Vap. Deposition (2003), 9, No.1 pp.45-49.	
	C4	Aoyama, et al.; "Ruthenium Films Prepared by Liquid Source Chemical Vapor Deposition Using Bis-(ethylcyclopentadienyl)ruthenium," Jpn. J. Appl. Phys. Vol. 38 (1999) pp. L1134-L1136.	
	C5	Dadgar, et al., "Growth of Ru doped semi-insulating InP by low pressure metalorganic chemical vapor deposition," Journal of Crystal Growth 195 (1998) pp. 69-73.	
	C6	Kwon, et al., "Atomic Layer Deposition of Ruthenium Thin Films for Copper Glue Layer," Journal of the Electrochemical Society, 151 (2) (2004) pp. G109-G112.	
	C7	Kwon, et al., "Plasma-Enhanced Atomic Layer Deposition of Ruthenium Thin Films," Electrochemical and Solid-State Letters, 7 (4) (2004) pp. C46-C48.	
	C8	Lashdaf, et al., "Deposition of palladium and ruthenium β -diketonates on alumina and silica supports in gas and liquid phase," Applied Catalysis A: General 241 (2003) pp. 51-63.	
	C9	Lim, et al., "Atomic layer deposition of transition metals," Nature Materials, Vol. 2 November (2003) pp. 749-754.	
▼	C10	Shibutami, et al., "A Novel Ruthenium Precursor for MOCVD without Seed Ruthenium Layer," TOSOH Research & Technology Review, Vol. 47 (2003) pp. 61-64.	

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Date Considered 09/21/2006

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First Named Inventor	Ganguli, et al.
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Sheet

1

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1

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May 23, 2005

**SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT BY
APPLICANT**

(Use as many sheets as necessary)

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (If known)			
KMS	A1	US-6887795	05/03/2005	SOININEN, ET AL.	
	A2	US-6800937	10/05/2004	MARSH, ET AL.	
	A3	US-6800542	10/05/2004	KIM	
	A4	US-6780758	08/24/2004	DERDERIAN, ET AL.	
	A5	US-6744138	06/01/2004	MARSH	
	A6	US-6743739	06/01/2004	SHIMAMOTO, ET AL.	
	A7	US-6737317	05/18/2004	MARSH, ET AL.	
	A8	US-6627995	09/30/2003	PARANJPE, ET AL.	
	A9	US-6576778	06/10/2003	UHLENBROCK, ET AL.	
	A10	US-6541067	04/01/2003	MARSH, ET AL.	
	A11	US-6517616	02/11/2003	MARSH, ET AL.	
	A12	US-6338991	01/15/2002	ZHANG, ET AL.	
	A13	US-6114557	09/05/2000	UHLENBROCK, ET AL.	
	A14	US-20040241321	12/02/2004	GANGULI, ET AL.	
	A15	US-20040105934	06/03/2004	CHANG, ET AL.	
	A16	US-20040038529	02/26/2004	SOININEN, ET AL.	
↓	A17	US-20040005753	01/08/2004	KOSTAMO, ET AL.	
	A18	US-20030212285	11/13/2003	UHLENBROCK, ET AL.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ³
		Country Code ⁴ -Number ⁵ -Kind Code ⁶ (If known)				
KMS	B1	WO 03/056612	07/10/2003	GENITECH CO., LTD.		

NON PATENT LITERATURE DOCUMENTS

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KMS	C1	International Search Report dated March 11, 2005 regarding International Application No. PCT/US2004/024805 (AMAT/5975PC02PCT)	

Examiner /Kelly Stouffer/

Date Considered 09/21/2006

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OCT. 27 2005

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		Country Code ² -Number ³ -Kind Code ⁴ (if known)				
KMS	B1	WO 2005/020317	03/03/2005	Chang, et al.		
KMS	B2	EP 1 293 509	09/10/2002	Kawano, et al.		

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KMS	C1	International Search Report dated July 29, 2005 regarding International Application No. PCT/US2005/010203 (APPM/005975PC03)	
KMS	C2	Meda, et al. "Chemical Vapor Deposition of Ruthenium Dioxide Thin Films From Bis(2, 4-dimethylpentadienyl) Ruthenium." Chemical Aspects of Electronic Ceramics Processing, Symposium Mater. Res. Soc., Warrendale, PA, USA, 1998, pp. 75-80, XP009050315, ISBN: 1-55899-400-9	

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